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Is primary angioplasty feasible or will we provide a two-tier service?

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Primary angioplasty for acute myocardial infarction has its fans, its doubters, and those (the majority) who belong to neither camp because they have no choice other than thrombolysis to achieve myocardial reperfusion in their institution. Should they feel inadequate and guilty not to be in a position to offer the "best" treatment? Should they all start a hard and long fight with their administration for an increased share of scarce resources? In other words, should the clinical superiority of primary angioplasty, be used as an argument for the availability of catheterisation laboratories and interventionists in every hospital? A responsible answer to these questions should probably be negative.

To abandon thrombolysis as the treatment of choice for acute myocardial infarction would certainly be a mistake as it has several advantages over primary angioplasty. First, if appropriately prescribed, its administration by a general practitioner or a junior casualty doctor will be as effective as when given by the most experienced cardiologist. Second, thrombolysis can be administered out of hospital when geographical constraints make this necessary.[1] Third, new thrombolytic agents are under investigation with the common aim to achieve TIMI-3 flow more rapidly in a larger number of patients.[2]

On the other hand, several advantages of primary angioplasty remain. Overall analysis of more than 2000 patients randomised in eight studies so far demonstrates a significant mortality reduction of angioplasty compared with thrombolysis, and the rare but devastating occurrence of intracerebral bleeding is also avoided.[3] Coronary anatomy and left ventricular function are assessed immediately, allowing better therapeutic decisions including early discharge.[4] The efficacy of reperfusion can be monitored directly and eventually modified by further mechanical and pharmaceutical interventions. Finally, this treatment allows the patient to be in expert hands during the acute phase of the disease.

However, recent multicentre data from the GUSTO IIb trial[5] suggest that the overall differences between primary angioplasty and accelerated tissue plasminogen activator (t-PA) are rather small, and point to the need for subgroup analysis. High risk patients, and probably patients with a contraindication to thrombolysis, are emerging as those with the best indications for primary angioplasty.

After a rather unequal competition between both strategies during the first 10 years of the reperfusion era, an unpleasant and unjustified feeling of revenge has been perceptible behind several affirmations favouring primary angioplasty. We should stop competing and concentrate on the real issues. These include making primary angioplasty available for the subset of patients most likely to benefit from the procedure, and organising adequate referral networks. It must then be the responsibility of every physician to make the best decision after a thorough (but swift) evaluation of the individual patient's situation.

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